

## ABSTRACT OF THE DISCLOSURE

A noise suppression apparatus is realized by at least one linear prediction analyzing circuit. Each linear prediction analyzing circuit includes: an adaptive filter which produces a linear prediction signal based on a first speech signal on which noise is superimposed, and outputs the linear prediction signal as a second speech signal in which the noise is suppressed; a subtraction unit which obtains a difference between the linear prediction signal and the first speech signal, and outputs the difference as a prediction error; and a coefficient updating unit which updates coefficients of the adaptive filter based on the first speech signal and the prediction error so as to minimize the prediction error. The noise suppression apparatus may include a cascade connection of a plurality of linear prediction analyzing circuits each having the above construction. Alternatively, the linear prediction analyzing circuit may include: a lattice filter which produces a linear prediction signal based on a first speech signal on which noise is superimposed; and a subtraction unit which subtracts the linear prediction signal from the first speech signal, and outputs a remainder after subtraction, as a second speech signal in which the noise is suppressed.